

# CLAIMS

1. A repetitive control device comprising:  
an adder to which a compensated signal is inputted;  
a feedback signal system for sequentially updating and storing an output signal from the adder, and outputting the signal to the adder;  
said feedback signal system comprising,  
a filter which has, as a delay element, a memory which stores signal information for one rotation of a disc into divided plural memory areas of the memory,  
a gain element which multiplies an output from the filter by a value not larger than 1, and inputs the resultant to the adder, and  
said filter being operated using a clock signal that is an integral multiple of an operation frequency of a driving signal.
2. A repetitive control device as defined in Claim 1 wherein  
said filter has a register connected in parallel with the memory, and records higher-order bit data of an input signal in the memory while records lower-order bit data in the register, during a filtering process by the filter.
3. A repetitive control device as defined in Claim 2 wherein

a word length of the higher-order bit data recorded in the memory is equal to a word length of data of the compensated signal that is added in the adder.

4. A repetitive control device as defined in Claim 1 or 2 wherein

said filter includes a low-pass filter, and uses said memory as a delay element for the low-pass filter.

5. A repetitive control device as defined in Claim 1 or 2 wherein

said filter is a band-pass filter comprising a low-pass filter and a high-pass filter, and uses said memory as a delay element for the low-pass filter.

6. A repetitive control device comprising:

an adder to which a servo error signal is inputted;

an integral gain for multiplying an output from the adder by a predetermined value;

a feedback signal system for sequentially updating an output signal from the adder and inputting the signal to the adder; and

said feedback signal system comprising,

a memory in which signal information for one rotation of a disc is divided to be stored in plural memory areas, and

a gain element which multiplies an output from the

memory by a value not larger than 1, and inputs the resultant to the adder,

wherein, when performing an integral operation to the inputted servo error signal, the integral operation uses the memory as a delay element for the input signal.

7. An optical disc device performing recording or playback of an optical disc, which is equipped with a repetitive control device as defined in Claim 1.

8. An optical disc device performing recording or playback of an optical disc, which is equipped with a repetitive control device as defined in Claim 6.